STEP 3:

Formulation of Alternative Plans

REFERENCES:

- ER 1105-2-100 - Chapter 5
- Planning Manual - Chapter 8

OBJECTIVES:

1. To be able to define plan formulation.

2. To be able to identify the four criteria for formulating alternative plans.

LECTURE OUTLINE

- Principles and Guidelines
- Role of planning objectives
- Solutions
- Scales
- Interrelationships
- Formulation Phases
- Formulation approaches

PRINCIPLES & GUIDELINES

Section VI - Alternative Plans

- 6.1. General
  - a. Definition of alternative plans
  - b. Plans should be different
  - c. Plans not limited to agency
  - d. Comply with or change law
  - e. Water conservation
  - f. Nonstructural
  - g. Protect environment through mitigation
  - h. Consider plans of others
  - i. Consider other schedules

ALTERNATIVE PLAN - DEFINITION

(P&G, Section VI, paragraph 1.6.1.a)

"An alternative plan consists of a system of structural and/or nonstructural measures, strategies, or programs formulated to alleviate problems or take advantage of specific opportunities associated with water and related land resources in the planning area."

PRINCIPLES & GUIDELINES

Section VI - Alternative Plans

- 6.1. General
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P & G Section VI - Alternative Plans (Continued)

1.6.2 Formulation

a. Formulate NED and other plans

b. Include beneficial increments

c. Consider four criteria:

- ◆Completeness
- ◆Effectiveness
- ◆Efficiency
- ◆Acceptability

1.6.3 NED Plan

1.6.4 Other Alternative Plans

a. Formulate other plans

b. Bases for other plans

c. Remove institutional barriers

PLAN FORMULATION - DEFINITION

(Planning Manual, Chapter 8)

"The process of building plans that meet the planning objectives and avoid the planning constraints."

Objectives and constraints - USE THEM!

SOLUTIONS

- Management measure - feature or activity at a site.
- Alternative plan - one or more management measures.
- Program - one or more alternative plans.

MANAGEMENT MEASURES

FEATURE

or

ACTIVITY

at a

SITE

- "structural"
  - requires some construction
- "nonstructural
  - one-time, periodic, continuing
- land or water
  - at, above or below the surface
  - sufficient legal interest for use

EXAMPLE MANAGEMENT MEASURES

FEATURES

- breakwaters
- jetties
- channels
- dams
- levees
- relocations
- water pumps
- fences
- food plots
- roosting platforms

ACTIVITIES

Actions:

- modify water releases
- seed, cut, burn vegetation
- pesticide application

Policies Affecting

Actions:

- vessel transit restrictions
- zoning restrictions
- grazing agreements

EXAMPLE PROGRAMS

Regional

- Upper Mississippi River Environmental Management Program
- Los Angeles County Drainage Project

National

- Continuing Authorities Program
- Coastal America Program

Continental

- N. American Waterfowl Management Prgm

Global

- Global Warming

CRITERIA FOR A SOLUTION

- Purpose - addresses one or more objectives
- Subject - comprised of management measures
- Site - location
- Cost friendly - able to estimate costs
- Output friendly - able to estimate what and how much you get from it
- Name - geography or measure based

SCALES - “SIZING”

- Physical properties
- Composition
- Location
- Timing and duration

SOLUTION INTERRELATIONSHIPS

Combinability

- Mutually exclusive location
- Mutually exclusive function
- Overlapping

Dependency

- Required to function
- Reduce risk or uncertainty of performance
- Improve performance

FORMULATION PHASES

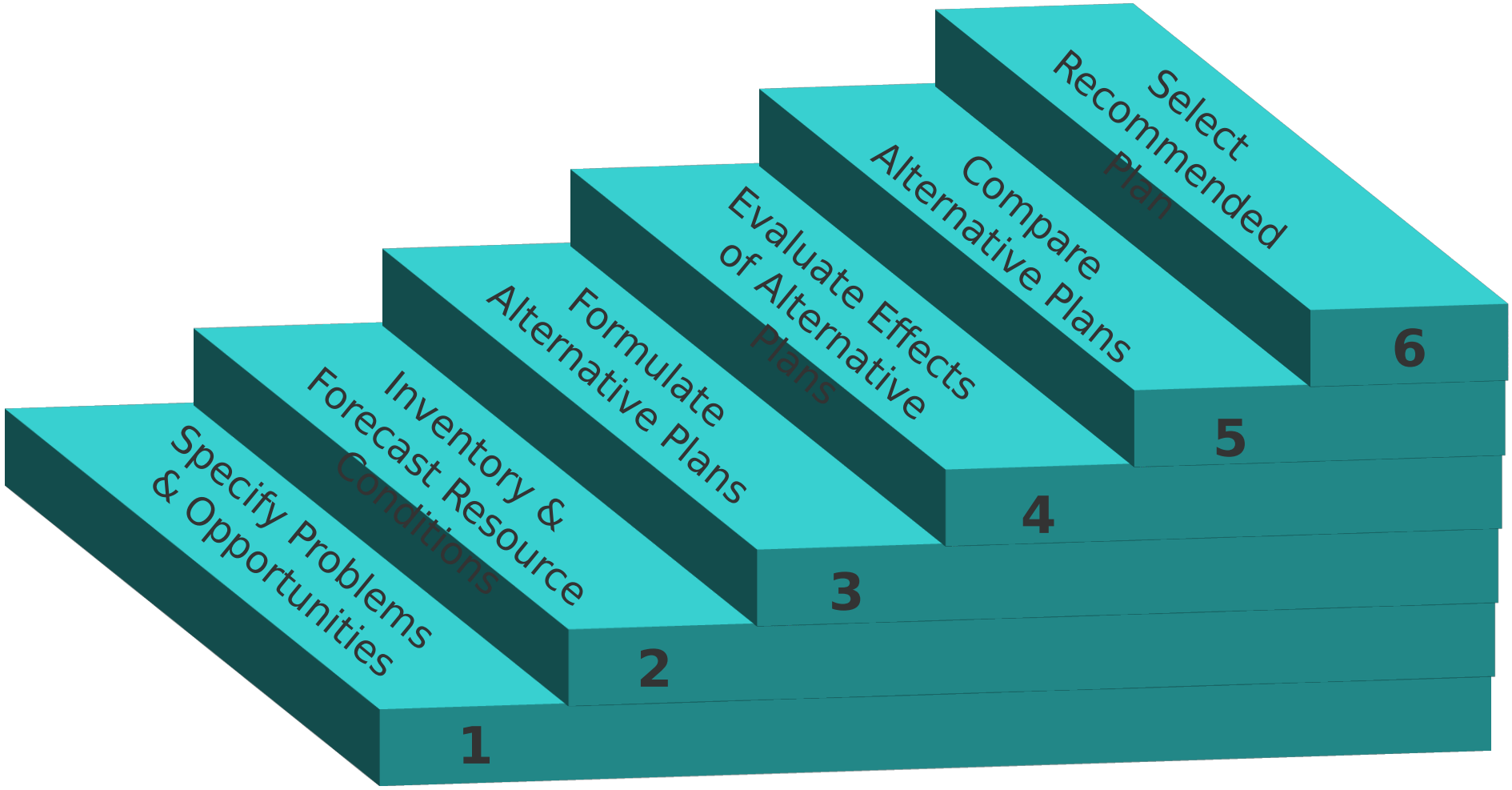
- Identify management measures
- Formulate alternative plans or programs
- Iterate - “reformulation”

ITERATION

- "Reformulation"

- Why? To improve performance against the four criteria for formulating plans:
  - completeness
  - effectiveness
  - efficiency
  - acceptability

P&G's SIX STEP PLANNING PROCESS



WHERE DO ALTERNATIVE

PLANS COME FROM?

THE SURVEY (OF 130 CORPS PLANNERS) SAID:

- *Most* said from *non-Corps* interests.
- *Many* said from the *study team* and *authorities within the Corps*.
- *Some* said from *technical expertise, creative thinking, experience, analysis, and politics*.

PEOPLE!

ONE PLANNER'S IDEA OF WHERE PLANS COME FROM:

"Just about anywhere. Local sponsor suggestions, public inputs, study team members, your left frontal lobe, etc.! They may not be feasible or have a Federal interest, but an alternative plan is na alternative plan."

FORMULATION APPROACHES

- Ask an expert
- Consider plans of others
- Checklists
- Formal problem-solving methods

DO WHATEVER WORKS!

“Think left and think right and think low and think high. Oh, the thinks you can think up if only you try.”

Oh the Thinks You Can Think, Dr. Seuss

TELL THE PLAN FORMULATION STORY.

Chronology is your friend.

SUMMARY

Plan formulation is the process of building plans that meet the planning objectives and avoid the planning constraints.

The four criteria for formulating alternative plans are:

- Completeness
- Effectiveness
- Efficiency
- Acceptability